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ABSTRACT OF THE DISCLOSURE

A method of forming conductive structures on the contact pads of a substrate, such as a semiconductor die or a printed circuit board. A solder mask is secured to an active surface of the substrate. Apertures through the solder mask are aligned with contact pads on the substrate. The apertures may be preformed or formed after a layer of the material of which the solder mask is comprised has been disposed on the substrate. Conductive material is disposed in and shaped by the apertures of the solder mask to form conductive structures in communication with the contact pads exposed to the apertures. Sides of the conductive structures are exposed through the solder mask, either by removing the solder mask, from the substrate or by reducing the thickness of the solder mask. The present invention also includes semiconductor devices formed during different stages of the method of the present invention.

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